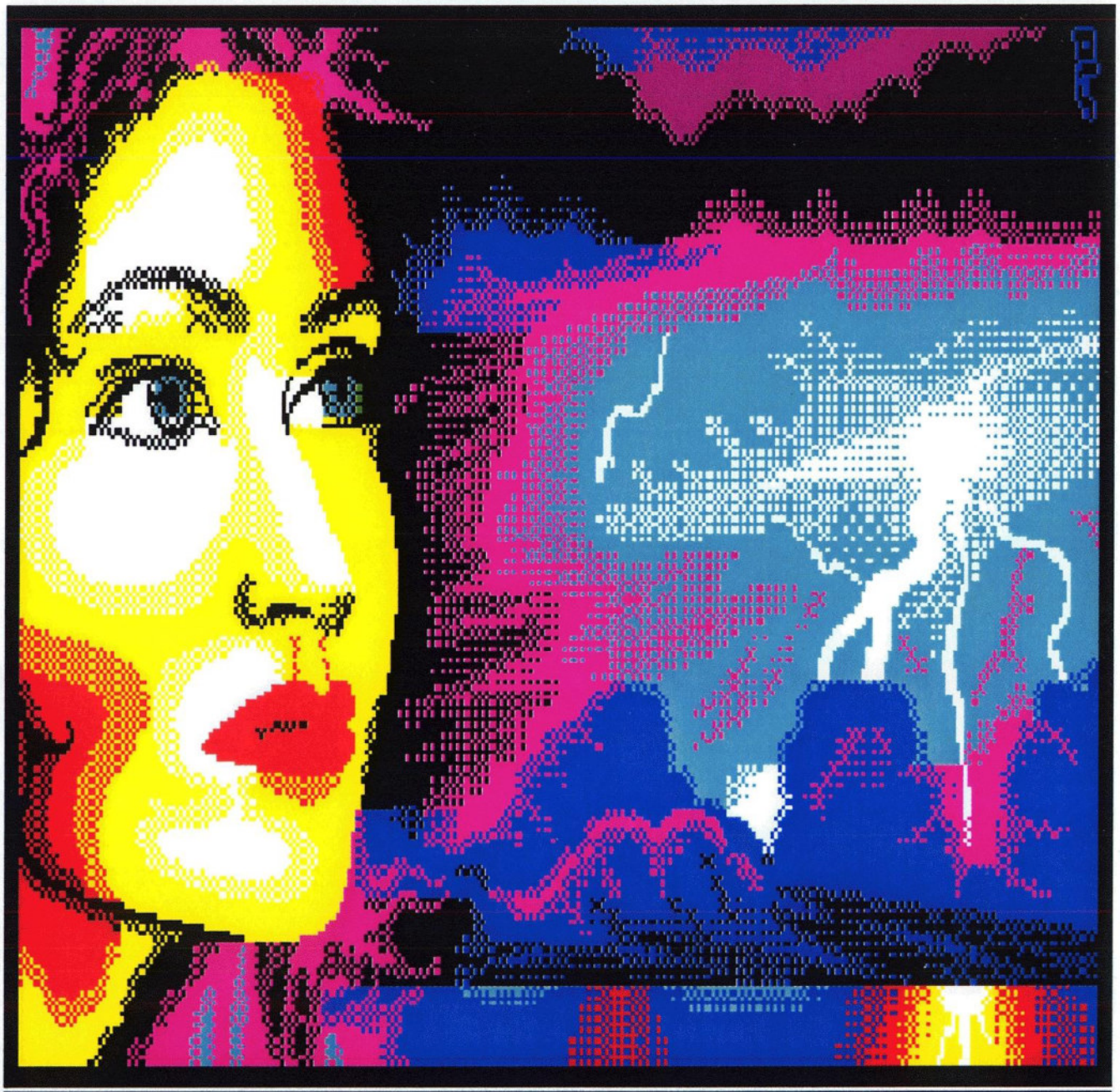
SUC-SESSION

DAS SPECTRUM - MAGAZIN

Issue 01/2002 (188) January/February 2002



We look forward in the year 2002
SUC-SESSION
now in German AND English

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Publisher

The Spectrum-User-Club, formally known as the Spectrum-User-Club Wuppertal, is the oldest existing Spectrum-Club in Germany, the ASC is the only Spectrum-Club in Austria. Since 1998 the Club-Magazine SUC-SESSION and SCENE+ have been sent together to all club members. They are compiled from contributions produced by the editor(s) as well as the readers. We call on all readers to send in their contributions as text files on cassette, +D, Opus, MB02 or MS-DOS (Word or pure Text files) or handwritten, per e-mail or printed on paper to us.

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How can you become a Member

Membership is basically free but the main services, the clubs magazine SUC-SESSION and SCENE+ can be subscribed to individually or together.

The Price:	Single issue	Yearly subscription (6x)
1) SUC-Session Magazine	3,00 €	16,00 €
2) SUC-Session Magazine as a PDF-Download	1,50 €	8,00 €
3) SCENE+ Disk-magazine	2,50 €	12,00 €
4) SCENE+ on Cassette	3,50 €	18,00 €
5) SCENE+ as a TAP-Download	1,50 €	8,00 €
6) Combi-packet SUC-Session & SCENE+ Disk	5,00 €	26,00 €
7) Combi-packet SUC-Session & SCENE + Tape	5,50 €	28,00 €

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New members who are ordering the Diskette version of SCENE+ should state the required format, we have available MB02+, Opus, +D und now also D80/Didaktik. If you are ordering additional Disk's or Cassettes together with a Combi-Packet then the price for these must be added to the Subscription number. Any questions should simply contact us per E-mail or under: 0711/775033.

Foreword

Hallo Spectrum-Fans,
the new year 2002 is bringing us a lot of good news. In Portugal a new Retro-Magazine is being published and in England a Spectrum Magazine has appeared. As for software, last year was a very respectable year and the announcements that have already taken place indicate that this year will continue the trend.
One of the best piece of news comes from ourselves, your Spectrum-Club. After a long search we have at last a built a team to translate SUC-SESSION. In future there will be a German and also an English edition, so that every reader can choose to read or write articles for the magazine in his favourite language. German articles will be translated by us into English and English articles into German. Magazine distribution will for the moment take place from here in Filderstadt, though a change to this procedure is possible. I'm very happy that I have managed to win Ian Spencer for this task, a well known user from the SAM-scene also well known to us in Germany. He will be assisted by Natalie Mayer who is also a Spectrum user who has like Ian also lived for many years in Germany and therefore finds it easier than someone who has only learned school English (*we hope you are right – Ian*). We wish the team every success in winning more readers for the magazine.

Out new concept of selling via the Internet will certainly attract international attention, now it's possible to obtain very cheaply a sample issue by downloading it from the Internet. Especially for SCENE+ we expect a large circle of readers, as there aren't too many Diskette magazines. Unfortunately some readers still haven't contacted the club to tell us in which form they want to pay their subscriptions. As in the past we expect that readers will take the 'Combi-Packet' but a short message would certainly be useful so that we can be sure. As you could see in the last issue the division of the magazine has immediate consequences. Ex. The ‚Contents' list for SCENE+ is completely missing from this issue, as not everybody also has a subscription to SCENE+. It's up to you to decide whether your are satisfied with your contents information in SCENE+ or whether you want something more comprehensive, Ex. an accompanying contents sheet. We listen to your suggestions willingly, we just need you to contact us.

We have adapted well to the Euro (and hopefully you have too, unless you happen to live in the British Isles of course). Those who paid their subs last year, there is no additional payment, the subscription continues normally and when you need to renew then please use the new Euro prices and include a note along with your transfer showing which subscription you have chosen. Now just a word about our Postcard action: There haven't so far, been many cards returned and only a few of these have been completed. Most of you seem to have had a lot of difficulty with the vote for the best Programmes of 2001. My earnest request, please support this project. We've referred to this vote many times during the year and now I hear there are many who simply don't know what they should vote for. Imagine if all of the programmers would have to say they don't know which programs they should write. Then we wouldn't receive anymore software for SCENE+ and would have to discontinue it. Without a magazine and without software the Spectrum would soon be dead. Some think we have been dead for over 10 years. It's up to you, to prove the opposite and show your interest in the work of the programmers. It's not yet too late, contact us, it doesn't matter whether it's with a postcard, by telephone, Fax or E-mail. Tell us which 3 programmes from SCENE+ in 2001 enthused you the most. The programmers are happy to receive any feedback.

Have lot of fun with this issue and we will be delighted to receive your feedback. (*and to all the readers of this the first English edition, Nattie and I hope you have enjoyed it and will recommend it to your friends – Ian)*

Thomas

Readers Letters

I'm pleased again this month to have some resonance from the last issue. Starting with Christof Odenthal and various questions and comments:

Hi Thomas,
I'll keep taking the Suc-magazine and disk (simply because I like to have something in my hand and which I can collect), though I think the separation and choice is not a bad idea. I could imagine that it will now be easier to find new members, as each member can choose whichever subscription(s) suits him best. Only the post and packaging has now perhaps become more complicated? Do you still want to send both the magazine and the disk via Austria, or have they now been separated ? In which case you won' t be tied to the availability of both at the same time, only it will mean higher postage costs, or will it?
Now something on a letter in the last issue – it concerned the fact that the T ornado-Assembler (amongst others) often crashed when the Interface for the PC-Keyboard (Proface ?) was in use. I've experienced this ef fect with Tornado without the interface. When my Speccy has been on for a long time then it often crashes while running T ornado – and that is when I insert new lines with the Editor. Instead of new line I see a copy of the actual line – but only on the screen ! When I page one side forwards and then backwards the copy disappears. Instead of the new line there is suddenly another line below split into two. When this happens and I continue to work or do a reset and reload T ornado then it very quickly crashes completely. The best thing to do then is switch of f the computer and let it cool down. Perhaps the Editor in T ornado is particularly sensitive to temperature problems, as Basic runs normally under these condition. V ery Strange.

Hallo Christoph, you are right, the new choice does make it easier for the people to choose one of our magazines. Especially abroad we can offer SCENE+ to those people who don't speak very much German. But even here there are certainly users who are interested in having a magazine rather than software. Internet freaks can download whatever they want and that's an advantage. Now that it's two separate magazines, I can get SUC-SESSION ready without having to wait for LCD to finish SCENE+, though the posting for users who take both magazines together (the majority) is still dependant on SCENE+ being ready on time. This postal arrangement, together and via Austria will still take place to save cost's, against which the sending of single issues from Germany is cheaper and we will be doing that.
I can't say anything to Tornado, as I don't have any experience with that program, but I can say that my Mother (Spectrum with internal Proface) also has problems

with Wordmaster crashing easily, while it runs perfectly without Proface. At least this program (as the only one I know of) is not compatible with Proface.

Rupert Hoffmann contacted us by E-mail:
Hallo to all Spectrum fans, today it' s the 24.1.2002 and I've just received issue 188. So today was the first possibility via Internet-Banking to pay my subscription. It' s not my fault that it's late. As in the past I'm taking the Combi-packet SUC-Session+Scene disk (Opus). Yes, the promised Chess-Corner is coming but not from me. I've promised many times but the continued problem is that as for some time 4 128er-Platinen and a 128+2 B which were sent for modification still haven' t come back. I think I'm just going to have to accept it. For as far as I know Jean Austermühle has had a serious accident. From here my best wishes for quick recovery.
Now, I've got an idea, but with it I've got a technical problem. For Christmas 2000 the SPC , that is Wolfgang Haller, brought out a super Christmas-CD, containing Spectrum-Emulators and SAM-Emulators and lot' s of software as well. As I would really like to get started on the Chess-Corner, is there the possibility of inserting my Opus-Disk (720KB) into the diskette drive of my PC and using it with my emulator ???? Probably won' t work or ??? Or is it possible to connect a normal cassette recorder??? If it' s possible then I could let the Spectrum-Emulator play chess against a Spectrum+2 (Modified from P .C.R.), which sits lovingly next to my.
If not I'll have to see in which way I can satisfy the Chess fans. Please give me sum suggestions!!!!!!!!!
I've seen once again that the Spectrum can do what a PC does. The Speccy is perhaps just a bit slower, though it is simpler to program i.e. Spectrum forever!!
Rupert-Hoffmann@t-online.de

Hallo Rupert. The lateness of the December issue was certainly not your fault, instead a chain of events throughout the whole year which accumulated until in the end we couldn't close the old year until January of the new year. I have asked all members to first pay their subscriptions when the new prices had been announced, so I can't really complain about late payment and I certainly won't.
As to your printed circuit boards, the problem didn't start with Jean's accident but started some years ago. We've tried to intervene from the club side, but Jean doesn't answer us either, even though we have offered to take over the distribution for the return of the various parts. We can unfortunately not offer any more help than this, however via SINTECH a number of computers are on offer. A Spectrum +2 only costs about 70 Euro's (the lowest price for years) and with that probably not more expensive than Jeans repair would have been.
As to the emulation of Spectrum and Opus I would refer to the article „PC Programme im Dienst von Spectrum, part 2" in Issue Nr. 5/2001. Where the Real Spectrum Emulator is described, and which can emulate just about everything that exists for the Spectrum including Opus. That's certainly one possibility to allow an emulator to compete against a Spectrum, whereby it's also possible to emulate other computers on the PC and let them compete with the Spectrum. I don't have any experience with the

Real Spectrum Emulator, but the other readers have your E-mail-Address and can contact you with some help.

Florian Stadler also contacted us in January:
Hi Thomas! I thought it was about time that I wrote to you. There are a number of reasons: First, because I was with Thomas Höger by LCD last Sunday and the Sprinter demonstrated to us. A 'cool' device and if I hadn' t seen with my own eyes the speed with which the DOOM-Demo ran I wouldn' t have believed it. When I think of the much slower and usually poorer graphic definition of Amiga 3D-Games I must almost feel ashamed of my second favourite computer...
Second, because here I have to report the lack of progress with the Shoot em Up and Emulator article, though with a halfway acceptable reason: I've done some more work on my Basic Demo for the 48K spectrum. It' s not all that spectacular, but I think it will be finished soon and in my happiness (and pride) think it' s the best Basic Demo ever written.
Third, the new SUC-Session: I'm happy every time I see that you have also printed mails which I have sent you, so that I feel that my words are being read by millions of people. And even though I know it' s not even 100, somehow or other I'm still proud!!
Fourth, the next Forever: LCD, Thomas Höger and I will certainly be there, perhaps we will meet there. See you soon!!
Florian

Hallo Florian,
I also don't know how you manage to get your letters printed from the thousands that we receive. Congratulations. We will be reporting about Sprinter in the next issue. As for the Forever...this time I really plan to be there! I hope to see lots of faces I know.

It's always nice to hear from new members:
Hallo Thomas, so I've heard your calls for new members and have convinced myself to join the SUC. Convinced because an interesting magazine lives from the active contributions of it's members and I see it as my duty to contribute. I know the problem well from my time in the Rolf Knorre's Spectrum Club Wuppertal. The situation is especially critical when most of the member are 'collectors'. Back then this wasn' t true but even so there was still a shortage of (good) contributions. Best wishes
Martin Weltzer

Hallo Martin, in any case I'm pleased to be able to welcome you to the club. In fact we don't demand that much work from our members, but at least a little. A readers letter and the return of the survey card once a year should be seen as the minimum, anything more than this is of course also welcomed. Our club was created from the Knorre-Club, more accurately I bought the club from him, to save what it was possible to save. Otherwise I don't think the club would exist today. The difference between what Rolf Knorre did and what I and others do, is that as publisher I don't just copy ready-made articles but am busy myself shaping the form of the magazine

and writing articles. Of course, that's a lot of work but I think it's possible to spend my time or worse things. Anyway I hope that you find in this and the following issues good and stimulating articles, and if you don't like anything then simply write to me.

News in Brief

A Spanish programming group is working on the translation of Nintendo-Hit Castlevania. We have already received a number of screen shots from an earlier version:

The program is only being converted for the Spectrum +3. There may be adaptions for the 128K but it's unlikely we'll see a version for the 48K.

Spectrum and SAM-days in Holland
Here are the Bunnik dates as I know them:
9. February, 8. June und 21. September.
To note:
The 2nd international Sinclair- and Sam-days will take place on the 27. und 28. April in Urmond. We'll supply more information as soon as we have it.

YLS
The last TMG-Demo should really be called YLS = Yes Less Stupidity, the answer to No More Intelligence. Unfortunately the contact with this the biggest German coder group has collapsed and the members are now spread through the whole of Germany, only Xterminator has still brought us MEGALOMANIA and the famous PENG 2 and PENG 3 Demos. Now there is something new to be found on the Internet from Talisman as he tries to find his coding-partner VISION. VISION is really Michael Meyer. In case, anywhere in Germany there is someone who seems to have a love of English computers, and has this name (it's not that common) then please send a report to the TMG – Website www.themadguys.de

Tips & Tricks

Adventure solution "Questprobe 3"

Hallo Adventure Lovers!!
Today's adventure is in the way it is played rather different from the adventures we've looked at to date. We are talking about the program "Questprobe 3" and strongly connected with that the name Scott Adams. Adventure lovers will know that Scott Adams has written a whole series of relatively tricky programmes, where in our opinion the adventure today counts as one of the easier to solve but that's something each player can decide for themselves. The story is based on the comedy series „The Fantastic Four" and in this adventure the player takes the role of two Marvel-Super heroes', on the one side "Torch" and on the other "Thing". With that it's clear that we belong to the 'goodies' in the country. Anyone who doesn't know the comedy series doesn't have to worry about being at a disadvantage. Our task is to find Alicia Masters, who is in the clutches of Dr. Doom. With that we have declared just what the program is about and we can get on with solving it. But first we should perhaps take a look at the locations we are going to visit. In total that is 31 locations:

01) In a small office
02) In a valley surrounded by hills / tar pit, shack
03) In an old shack / candle
04) In a tar pit
05) In a cavern under a tar pit
06) In a cavern A
07) In a cavern B
08) In a cavern C / bio-gem, natter energy egg
09) In a cavern D / wall of fire
10) In a cavern E / hole in the ceiling, 50 tiny holes in the wall
11) In the air high above the valley / dense smoke cloud, Doom-s castle, hills, tar pit
12) In the hills around the valley / cave
13) In a cave / large boulder
14) In a 8" round ventilation shaft A
15) In a 8" round ventilation shaft B
16) In a long tunnel A / blo-gem, natter, energy egg, burning gas jet
17) In a long tunnel B / flickering gas jet
18) In a long tunnel C
19) In a long tunnel D
20) In a maintenance area / hole in the floor, locked door, lever in the floor
21) In a 8" round ventilation shaft C
22) In a 8" round ventilation shaft D
23) In a field / Dr. Doom's castle
24) On a road
25) In a fairground outside Latveria / circus tent
26) Inside the tent / cannon
27) Inside the circus cannon
28) In the village of Latveria / houses & shops
29) In a shop / gunpowder
30) At the castle entrance
31) In a great room / ruby of domination, Alicia Masters, Statue of Xandu

So that was the Locations, which you can see graphically on the enclosed plan. As you know the player takes on the role of two different beings so that it's not particularly easy to find your way to the solution. The range of the map isn't particularly demanding, but different characters require different numbers of steps to achieve the same thing. This can cause some confusion. So it wasn't easy for us to offer a plan, which could be applied generally, but we think you can live with the plan and when you follow the Tipp's, then the program shouldn't cause you any problems. So let's get started. We are starting as the Torch and in the Office of the chief examiner:

Talk to examiner (He tells us that in this test we must free Alicia Masters from the claws of Dr.Doom. We are required to use the strengths of two marvel super-heroes. To change our identity we need to enter "switch"), enter shack, get candle, S, fly, enter tar pit (We meet Thing), switch, take candle from Torch, switch, leave pit, flame off, switch.

Now we are Thing:
Hold breath, wait 15 (It's completely dark but don't be afraid), wait 10, feel around (We discover machines), smash machinery, W, *N, N* (To the east we can see a glimmer), E (Now we can see our surroundings quite clearly and are confronted with a fire-wall), light candle, examine fire (On the other side are a number of objects: Bio-Gen and Natter Energy Egg), which we don't need so they shouldn't interest us further), *W, S, S,* E (We should now see a pit into which tar is dripping), S, switch.

Now we are Torch again:
Throw high flame at tar pit (This will ignite the tar and create a smoke-wall, which will protect us from being shot while we are flying – pretty sneaky), fly hills, fly hills, flame off, enter cave, examine boulder (The boulder is hiding a shaft), shoot high flame at boulder, flame off, get pebble (These are the remains of the shattered boulder), drop pebble down shaft, N, switch.

And now it's Thing again:
Look (We see the pebbles at the bottom of the shaft), get pebble, throw pebble hard up shaft (Dirt rains down and a virtual whirlwind blows in the shaft), switch.

Torch appear on the screen again:
Examine watch (We get actual information to the state of play), wait 50 (This takes some time. Don't panic the program hasn't crashed. It's running on a Spectrum not a PC), examine watch, enter cave, enter shaft (And down you go), D, D (We ignore the messages displayed), flame on nova, look, N, *W, N, N,* E, examine watch, absorb flame, absorb flame, absorb flame, absorb flame (To get 100% of our energy back), examine watch, enter fire, E, E, E, feel around (We discover a hole), enter hole, flame on low (So that's better, and now we can see a lever.), examine lever, (Left says „low" and to the right „high"), push lever left (With that we reduce the wind speed in the shaft), flame off, enter hole, W, W, W, examine watch, enter fire, W, *S, S, E,* S, get candle (from Thing), extinguish candle, get Thing, flame high, enter hole, fly up shaft, fly up, fly up, fly up, flame off, N, wait 50 (To tank 100% Energy again), fly valley, fly castle, flame off, dig (The lilac coloured worm is a Red Herring – Forget about him), *S, S,* drop thing, switch.

It's time for Thing again:
Close eyes, enter tent, get cannon, leave tent, open eyes, N, N, drop cannon, enter cannon, switch.

And now it's Torches turn again:
Enter latveria, enter shop, get gunpowder, E, E, *N, N,* load cannon, aim cannon at Blob, fire cannon at Blob (The tail burns), shoot high flame at Blob (This causes Blob to tread in the recess and Thing can get past), flame off, switch.

Thing on duty:
Good old Thing was busy in the meantime. He has shot himself into the castle entrance. Switch

Torch appears for the last time:
Save game (Not a bad idea, after all you can never know what might happen), fly hills, fly hills, flame off, examine watch, wait 15, wait 10, enter cave, enter shaft, D, D, flame on nova, fly down shaft, light candle, N, W, *N, N,* E, absorb flame, enter fire, E, throw high flame down tunnel, switch.

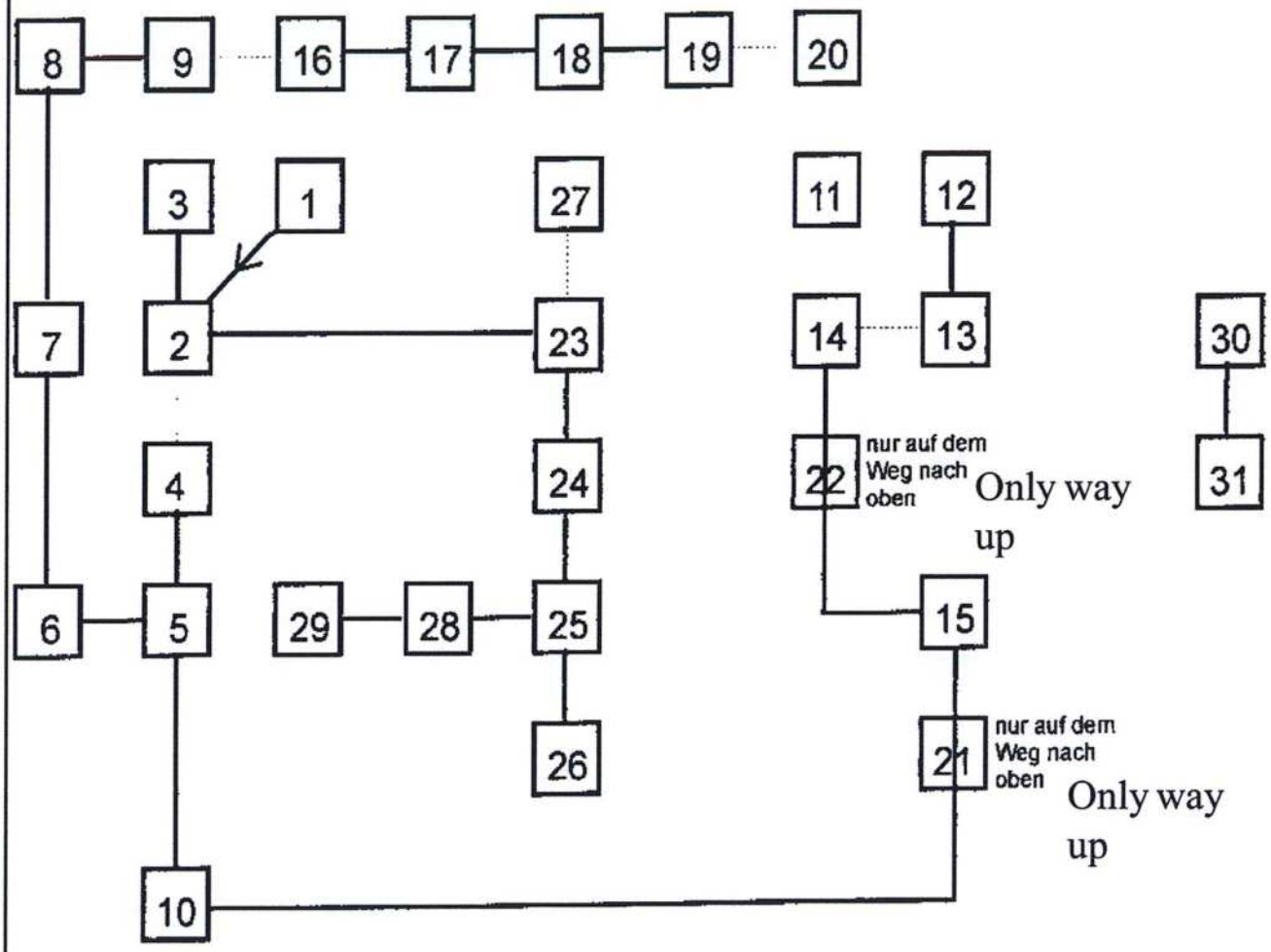
And once more Thing:
With a large explosion the gas ignites and the tunnel collapses. This causes a small earthquake in the castle above . S (Xandu has been knocked unconscious by a falling statue – so Thing has free rein), get Alicia Masters – we return to the chief examiner and the adventure has been solved. The final message appears.....

„The Chief examiner says: Congratulations"

Yes, Adventure lovers that was once again the happy conclusion of a program. Look at what the future will bring. One never knows..... Till then!

Harald R. Lack, Heidenauer Str. 5, 83064 Raubling
Hubert Kracher, Schulweg 6, 83064 Großholzhausen

Questprobe 3



Double 'H'
mapped by
Software

Hardware-Corner

Monitor-Cable for the Spectrum 128 und +2

The ultimate solution from Paul Farrow

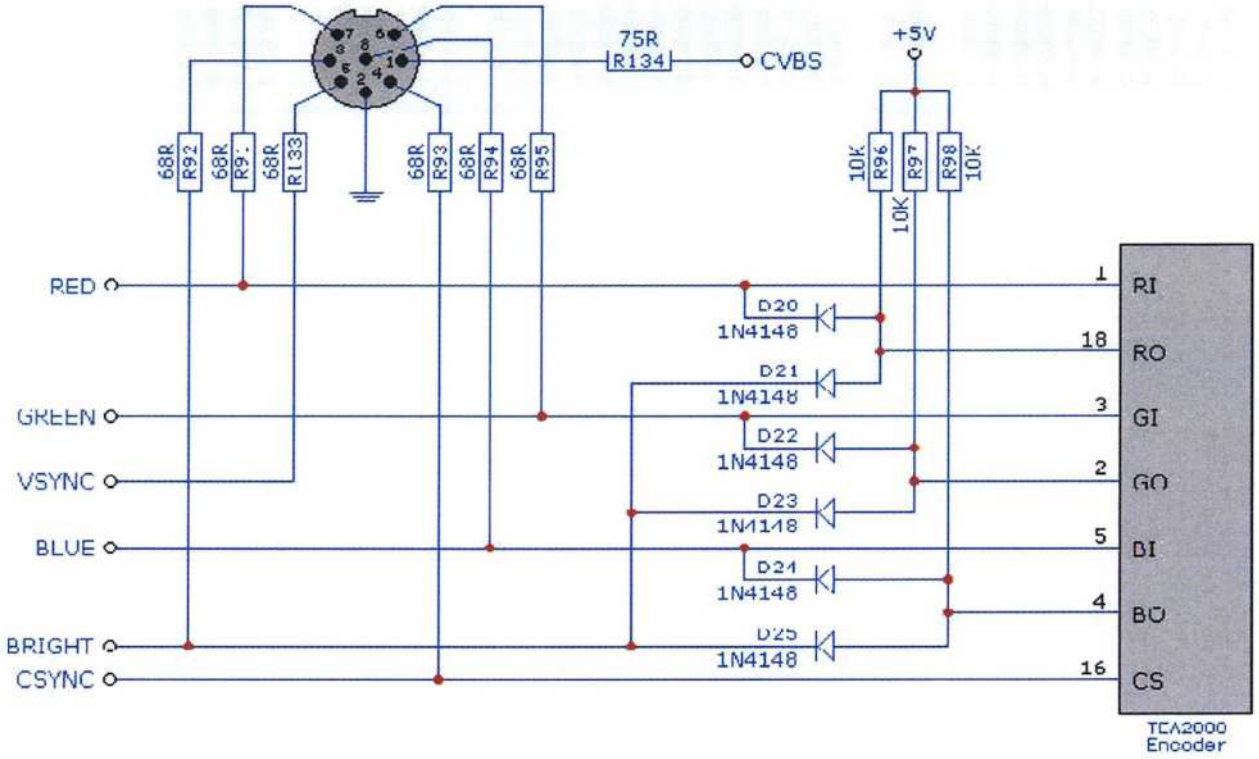
Found on the Internet at: http://www.fruitcake.plus.com/Sinclair/Spectrum128/SCARTCable/Spectrum128SCARTCable.htm

The Spectrum 128 improves upon the display quality provided by the 48K Spectrum by having a dedicated socket that outputs both composite video and RGB signals. The composite video output measures 1.2V pk-pk at 75 ohm and is suitable for direct connection to the VIDEO IN pin of a TV's SCART socket. The Spectrum 128 also provides RGB outputs at 5V TTL level. However, since the Spectrum 128's RGB outputs are TTL signals, they are either at 0V for no colour or 5V for colour on. As a result, the two shades of each colour available from the Spectrum 128 are not generated. To overcome this drawback, the Spectrum 128 outputs another TTL signal that indicates whether the colour being output should be shown bright or normal. Separating the BRIGHT signal from the red, green and blue components allows the Spectrum 128 to drive a monitor that accepts TTL level RGB inputs, though with a loss of the two shades of each colour. However, in order to connect the Spectrum 128 to a TV with a SCART socket additional circuitry must be implemented to convert the signal levels. Further circuitry can combine the BRIGHT signal with the colour signals to generate the two shades of each colour. Fortunately this circuitry is very simple and this web page describes how to construct a suitable lead.

It should be noted that a video cable designed for the Spectrum +2A or +3 is not suitable for use with the Spectrum 128 or +2. When Amstrad released the Spectrum +2A and +3 they kept the same style of monitor socket but altered the signals output for each pin. The +2A/+3 socket now outputs RGB signals suitable for direct connection to a TV with a SCART socket. The BRIGHT signal is no longer available as it is now combined with the red, green and blue signals internally. The composite video signal provided on the Spectrum 128 is no longer available on the Spectrum +2A or +3.

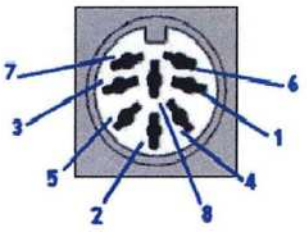
Video Circuitry

The Spectrum 128 uses a TEA2000 Encoder video chip which outputs TTL level red, green and blue signals. These signals are taken to the monitor socket via 68 ohm resistors as shown in the diagram below.

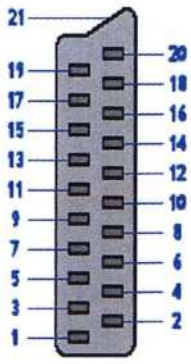


The monitor socket of the Spectrum 128 is a female 8 pin DIN (type 45326) and the signals available are:

Pin	Signal	Level
1	Composite Video	75 ohm, 1.2V pk-pk
2	0 Volts DC	0V
3	Bright Output	TTL
4	Composite Sync	TTL
5	Vertical Sync	TTL
6	Green	TTL
7	Red	TTL
8	Blue	TTL



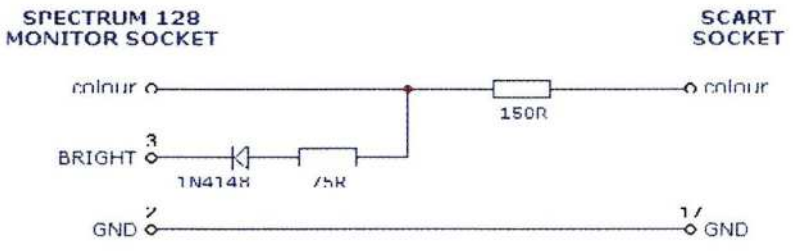
The layout of the SCART socket (also known as a Peritel or a Euro connector) is as follows:



The pin signals available on a SCART socket are shown below, but note that some TVs may only support a subset of these.

Pin	Signal	Level
1	Audio Output Right	0.5V RMS, <1K output impedance
2	Audio Input Right	0.5V RMS, >10K input impedance
3	Audio Output Left	0.5V RMS, <1K output impedance
4	Audio Ground	0 Volts
5	Blue Video ground	0 Volts
6	Audio Input Left	0.5V RMS, >10K input impedance
7	Blue Video	0.7V pk-pk +/- 2dB, 75 ohm input and output impedance
8	Function Switching	0 to 2V – TV (default if unconnected). 5 to 8V = TV wide screen. 9.5 to 12V = AV mode. [When an AV source becomes active it sets 12V on pin 8 and causes the TV to automatically switch to that SCART input. When the source stops, the signal returns to 0V and TV viewing is resumed. If a 16:9 program is present, the source raises the signal on pin 8 to only 5V.]
9	Green Video Ground	0 Volts
10	Comms Data Line 2	This signal allows devices to communicate serial data
11	Green Video	0.7V pk-pk +/- 2dB, 75 ohm input and output impedance
12	Comms Data Line 1	This signal allows devices to communicate serial data
13	Red Video Ground	0 Volts
14	Comms Data Ground	0 Volts
15	Red Video	0.7V pk-pk +/- 2dB, 75 ohm input and output impedance
16	Blanking	75 ohm input and output impedance. 0V to 0.4V: TV is driven by the composite video input signal on pin 19 (default if unconnected). 1V to 3V: TV is driven by the Red, Green, Blue signals and composite sync signal on pin 19.
17	Video Ground	0 Volts
18	Blanking Ground	0 Volts
19	Video Output	1V pk-pk including sync, +/- 2dB, 75 ohm output impedance
20	Video Input	1V pk-pk including sync, +/- 2dB, 75 ohm input impedance
21	Common Ground	0 Volts

The circuitry required to connect the Spectrum 128 to a SCART socket consists of only resistors and diodes. The diagram below the circuit required for each of the colour signals.



The 150 ohm resistor reduces the TTL level colour signal down to a level suitable for the SCART socket. This voltage level produces the bright shade of colour. For the normal intensity colour, the diode and 75 ohm resistor will reduce the TTL level signal coming out of the Spectrum 128. The 68 ohm resistor inside the Spectrum 128 ensures that TTL levels are maintained internally. The reduction of the TTL levels coming out of the Spectrum 128 will only occur when the BRIGHT signal is at 0V, i.e. no brightness. When the BRIGHT signal is at 5V, the diode and 75 ohm resistor have no effect as the colour signal out of the Spectrum 128 is already at 5V.

The other output required from the Spectrum 128 is the composite sync signal and this should be connected to the SCART socket's VIDEO IN line via a 150 ohm resistor.

TV sets that provide manual selection of viewing the composite video signal or RGB signal from the SCART socket are unlikely to check the BLANKING pin and so this can be left disconnected. If the TV set attempts to automatically select the type of video source available, then it is necessary to connect the BLANKING pin to the Spectrum 128's composite sync pin via a 100 ohm resistor.

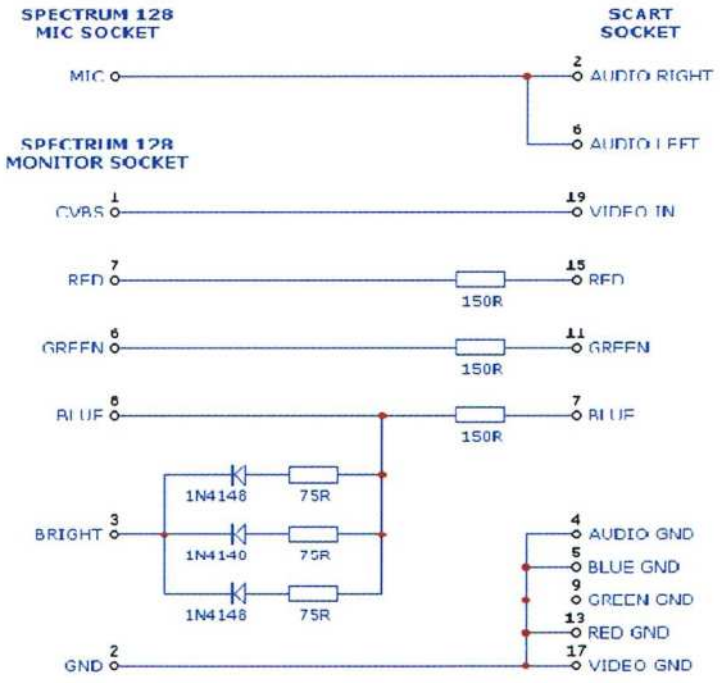
Audio Circuitry

A drawback of the monitor socket on the Spectrum 128 is that it does not provide a sound output, whereas the Spectrum +2A and +3 do. It is therefore necessary to obtain the sound signal from the MIC cassette port via a 3.5mm Jack plug. The SCART socket has separate connections for left and right audio channels and so these must be wired together. The voltage from the Spectrum 128's MIC socket is typically about 3V and so this is directly suitable for the SCART's audio inputs as these can accept up to 5V.

Connections

The complete circuitry and wiring of a SCART lead for the Spectrum 128 is shown below:

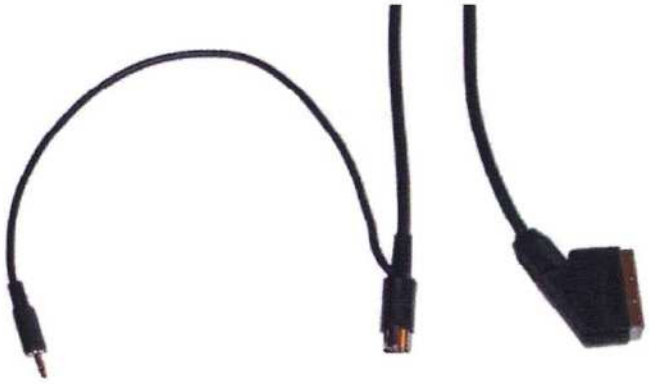
(Editors Note.: Graphic fault pin 19 should in fact be PIN 20).



The SCART socket provides separate audio and video ground signals although these will often all be connected together inside the TV set (the diagram above assumes this). However, in the unlikely event that the video signal grounds are all independent then they can be connected together inside the SCART plug. The audio ground can either be connected to the video grounds inside the SCART plug or to the ground signal from the MIC socket. If the audio ground is connected to the video grounds inside to TV set then the MIC ground connection should not be made as this would cause a ground loop.

Note that in the diagram above the composite video signal (CVBS) has been used instead of the composite sync signal. This yields the added benefit that the same lead can be used to link up to a TV either via an RGB connection or via a composite video connection, and is useful as not all TV sets support an RGB connection. The composite video signal contains all the synchronising information present in the composite sync signal and so this method relies on the TV set discarding the actual picture information. If problems are encountered then it is best to construct two leads if both types of connection are required. The 150 ohm resistor required with the composite sync signal is not needed if the composite video signal is used instead.

Comment TE: Please note that that I think it is not pretty clear in the diagramm, that the Bright Signal should be connected to each of the colour lines. It makes no sense to connect three wires just to the Blue signal like it is shown in the circuit.



Testing the Lead

The Spectrum 128 can display a test screen at start up that is designed to be used when tuning in a TV set. The test screen is accessed by holding down the **BREAK** key whilst resetting the Spectrum 128. The test screen consists of a series of vertical lines showing each of the shades of colour available from the Spectrum, with a one second tone produced every other second.

Managed it at last, now the winner of the 1999 poll has received his prize.

Interview mit Factor 6

SUC: A little bit late, but finally you got the first prize, you won in year 1999 for BOOVIE 2. You are the last member of the ex-ESA who is still active. When did you have the idea for Boovie 2?

F6: Well, anyway thank you once again for the prize. The idea came from the original Boovie by KVL of course. One day, Tuleby, the ESA's coder came to me and said that he's making a new game. When I asked him what game, he answered that he is making Boovie 2. I didn't think it's a good idea to remake an older game at the moment, but when I saw it, I was very enthusiastic and I liked it! Tuleby said he needed music, so I created three songs for the game. It wasn't hard to get inspired, I only remade some C64 songs from Flimbo's Quest and a tune called Happy Birthday (under key 3 in the game), all songs composed by Reyn Ouwehand. Well my versions are shorter and I added my own parts to them, but I think I didn't do anything wrong. When the tunes were finished, I went to Tuleby and we made levels in the Boovie 2 level editor, which he had made. Most levels were made by Tuleby's younger brother Max, and weird level codes also thought up by Max and me. They are really weird and their meaning is sometimes rude in the Czech language. I don't know why we used them, but there was a good time in Tuleby's house and we didn't care about anything. Someone just said a word and we used it :-)

SUC: Who else was working on BOOVIE 2?

F6: As I said. Tuleby - the coder, graphics artist and level maker, Max made many levels and I the (music).

SUC: What happened with all the people?

F6: Well, Tuleby found a new girl in that year, and his Didaktik Kompakt 128k started to strike. He had problems with FDD power and then the computer crashes about 5 minutes after switching on. It's really strange, he needs a new Speccy urgently, but he hasn't any money. Then, the usual real-life problems appeared and he did nothing for Speccy till now. Now, he told me that he wants to do something new on Speccy, but he can't because of this problem. Tuleby is in quite an interesting situation. He has no any other computer, he doesn't know to work with PCs and anything other than Speccy, so he's a really uncontaminated person in our ZX life :-) I think there are few of such people nowadays. Max, his brother, was never much interested in making scene stuff and so on. Concerning computers, he's a typical lamer. He only played games on Tuleby's Speccy and only painted some graphics, but he's rather good in real drawing on paper. I saw his real drawings and they are really pretty. Now, I haven't heard about him for a long time. I only know he bought a PSX and plays games on that shit.

SUC: You are now a member of K3L. Any new projects planned?

F6: Yes. I joined K3L because it seemed that K3L is active. And mainly because I wanted to finish Genetic Error, the demo from Doxycon'98. Then, Relict joined, very cool graphic artist from Latvia and he made some pictures for GE, but Dron, the only coder of K3L was to lazy to do anything. So we took Ra_id to our team, a Russian coder, but he also seems to be not too active as well. What a pity. Everything went quite well with Genetic Error, we made a new scenario for the demo, but the other freaks were lazy, not inspired or I don't know. When I didn't force them, none of them would come up with anything new. After some time I met Dron and he said he won't finish the demo. So, Genetic Error won't probably be finished anymore. The members are still alive, but not active.
I took also Johny-X to K3L, coz I think he's quite good and because he's my friend, but he also did nothing because his MB02 and Speccy are broken. Bell of K3L still makes music in SQ-T sometimes, but I've spoken
with him at Zlincon'2001and he said he didn't made anything new since Zlin'00. So the most active man is me!!! (I'm starting to think that I will probably be the last Speccy scener in Czechia :-) But I won't give up! Scene is my life, I'm interested of all 8bit computers with scene, now exploring small Amstrad CPC scene and I'm active on C64.

SUC: Your last demo you showed on Zlincon...was it just for fun or was it planned to release at Forever or any other demo-party? (By the way: I erased it, can you send it again?).

F6: Forget it! Hehehehehe! Not really. I won't send it to you, because it was a bit buggy. I decided to release it at Forever. Last weekend I added three new parts (!) so the demo is now finished and waiting for release. (It's really shit, lame coded, as the first part you saw was, but who cares? All is for fun! I won't worry if my demo will be in the last place :-). You can copy the whole demo at Forever.

SUC: At least can you provide us with a picture of you? And maybe you have some final words to the readers who voted for your program?

F6: I really don't know who will read this, but anyway, stay by your Speccy as long as possible. It will be with you forever, in your soul. It's still open for new things. I love it because it's so simple and primitive, but powerful. You are able to understand it all, you know for example what's happening in every part of memory (do you know what is happening in 512MB memory of your PC? I guess not!) And I love old things and Speccy is fucking old! 20 years! I hope we will celebrate it at the Forever party. Se ya there!

Demo-freaks watch out... it's coming

Thank goodness that there are also regular Spectrum-Parties outside of Germany, i.e. the Zlincon in the Czech republic or recently also the Forever-Party in Slovakia. This one is not a normal Spectrum-Meeting, 'Forever' is known as **THE** Scene-Party of them all. Included is not only the Spectrum but also many other 8-Bitters such as the Atari 800 XL/130XE and the C-64.

Anyone who says that Slovakia is much too far, should remember that the whole of the 8-Bit Demo-Scene meets there. Already 81 Coder have confirmed their participation, even though we must accept that not all of them will make it. A respectable number of no less than 24 Speccy-Coders are included, whereby one can say that the whole Demo-scene who live outside of the Russian Federation are represented. No matter whether it is Omega, Factor6, das Zero-Team, K3L or the most active British coder "Gasman", they are all planning to attend alongside many German and Austrian visitors and to bring something with them : Alongside Intros, Graphics and Music, no less than 13 Demos have been announced and will take part in the competition. It has been disclosed that there is a German entry.

Interesting is the view beyond the Speccy. The International Atari and especially the C-64 scene are certainly prepared for an exchange of experience and as well as many German there will also be visitors from Spain, Norway, Sweden, Hungary etc. Discussion will for the most part take place in English and not in the Slovakian language, as one might expect by a meeting in Slovakia.

That a town in Slovakia has suprisingly become the Demo-Meca is of course for West-Europeans a barrier, as we have further to travel and many are nervous about attempting a visit to Eastern-Europe. It should though be mentioned that Trencin ist at least at the western tip of Slovakia and is also a very beautiful town. I was there some years ago and have only the best memories of my visit, even though I was never at the 'Forever'. From Vienna it's not so far, if 'Gasman' from England can manage to attend then others could manage it too.

I don't want to repeat the Contest and Party rules every year so here are the important points:

Date: 15, 16, 17. March 2002 (nonstop)
Ort: Zlatovce/Trencin/Slowakei
Address: Stredna Priemyselna Skola Odevna
Stancna 8,
Trencin 91105, Slovakia
Eintritt: 200,-Sk/4 USD/5 EURO

Anyone who wants to know more can contact us or look at our internet site: http://www.4everparty.host.sk/

All of those who can't attend will be happy to hear that everything produced for ‚Forever' will of course very quickly be made public in the SCENE+ and so available to everyone who subscribes.

te

Happy Birthday...but when ?

@1982 Sinclair Research... at the latest after a crash your going to see this message, so that we would guess our Speccy is this year 20 years old...but when exactly was the Speccy born?

If we believe the rumours then the Spectrum was first build in 1981. That would seem logical as back then, as well as now the start of a product has to be well prepared. If one thinks about the various issues concerning the Spectrum which were continually improved (or we could say failures were corrected), then it is possible that before Issue 1 there was a Version 0.9, an early prototype. But to get back to the point:
Following our research in the Internet, the Spectrum had on the
04.04.1982
it's official start. So with that there remains perhaps one issue before our 'Birthday magazine', but as our appearance is so to say a little irregular at the moment, we wanted to let you know. We'll save the Happy Birthday though, until the right time... Long live the Speccy!

It works, it works...

IDE – the world of the Hard-disk and CD-ROM

What does a Spectrum-User dream of. Internet ... of course, True Colour Graphics ... oh yes, even with a little Colour-clash, or, 16-Bit Samples ... Ok, that's enough of that. The Spectrum-User has always dreamed of working with a hard-disk so as to be able to save his whole diskette collection. You can stop dreaming the dream has become reality.

A quick return to the introduction. Hard-disk interfaces for the Spectrum aren't new. There are users who have run Hard-disks for years. The reason for it's continued failure was the Operating system. Most often it was necessary to use complicated MC-routines to access the tracks and sectors. No 'Load and Save' here. Then there were solutions which offered no compatibility to the disk interfaces, this was also a weakness, how was one to transfer the data to the Hard-disk. But this year there is a new solution for the +3. A Hard-disk which works with the +3 DOS. The only problem, almost no one seriously uses the +3, the +3 Diskette format provides a further hurdle (only 170K and 3" diskettes). For this problem there is a solution but that's another story.

The solution I want to describe here is for MB02-Users and sorry, for the moment only for MB02-Users. The Interface which I am using here was presented in the SUC-SESSION from 04/2000, though at that time I hadn't completed the software. The Hardware kit is now available from me, however I only have a limited number of printed circuit boards in stock.

The trick is to convince the DOS of the MB02 that instead of a Hard-disk it has 255 diskette drives connected to it. To achieve this it's necessary to make changes to the System and to write the so called 'Virtual Disk Table'. Here's a description of the necessary changes:

HddPatch- InLine documentation v 1.61. Original in Czech by DRON,
English translation by HOOD 9/ 2001

HddPatch structure:

offset	length	
0	3	jp install (do not change!!)
3	1032	VDT (see particular chapter)
1035	8	port addresses of your IDE interface
1043	???	the patch itself

Port addresses of IDE interface
There are 8 ports but I have connected them differently (my connection is not standard, check if your ports have the correct values!)

name of port	*my adress*	*standard adress*
DATA	195	163
ERROR	199	167
No. of SECTORS	203	171
SECTOR NUMBER	207	175
CYLINDER LOW	211	179
CYLINDER HIGH	215	183
HEAD	219	187
COMMAND	223	191

VDT - Virtual Disk Table
HddPatch, limited by BSDOS 308, simulates up to 255 disk drives on your harddisk. Just count with me. 0 is a tape recorder, 1, 2 (theoretically also 3,4) are the disk drives (but they can be replaced by hddpatch) and the rest to 255 can be used by us.

One IDE can connect 2 harddisks. Each harddisk cen contain up to 4 partitions. The VDT table carries information for BSDOS where the drives (1- 255) are physically placed on the harddisk. If we have 2 harddisk connected, we can put their diskimages into BSDOS as entirely arbitrary drives. We can realise it directly at work using appropriate software (which still does not exists ;-)

VDT has the following format at present:

offset	length	
0	4	sec,head,cyl for hdd_a
4	4	sec,head,cyl for hdd_b
8	4	0,0,0,0 (the tape recorder)
12	4	physical location of drive 1 (fdd is here, better no to change)
16	4	physical location of drive 2 (fdd can also possibly be here)
. .		
. .		
. .		
1028	4	physical location of drive 255

the total length of VDT table is 1032 bytes

The data head of „physical location" looks as follows:

0x0yqqqZ ——logical number of a sector——

x - the access method to harddisk
0- normal adressing cyl/head/sect- used by all harddisk
1- LBA mode (harddisk of capacity bigger than 500MB, but older types do not support it !!! But it does not play any role if this bit is set or not because in hddpatch the priority of access method is directed by „qqq" value)

y - Master or Slave
0- the drive is connected as master
1- the drive is connected as slave
z- write protection
0- not write protected

1 - write protected
qqq- access method to harddisk (shows the capabilities of your harddisk)
000- the total basic work (reads 2 times one sector)
001- reads 2 sectors at the same time
010- LBA mode and two sectors at the same time
011- LBA mode and 1024 bytes taken as one sector

a note: reading 2 times a sector can seem quite foolish but even though the possibility of determining how many sectors will be read at the same time is implemented in even most old harddisks, my 50MB one fairly regularly freezes by this „very ticklish" operation. The more your harddisk can do the easier for ZXSpectrum it is to transfer data and also acceleration can be awaited.

The first diskimage on the partition has the logical number of sector same as the first sector of this partition, the next diskimage is 4096 sectors further etc. until we come to an end of the partition. The logicalnumber of the first sector can be taken by looking at the programm Partition-Info.

A practical example how to create a VDT table:

IDE interface is connected and fully operational. We connect one... or better straightaway 2 harddisks. We must switch them correctly (master as MA, slave as SL) and check their function, at best with TNT&PVL ideInfo program. In my case, the output was as follows (only the most important):

MASTER: QuantumLP52A
DEVICE TYPE: HDD
GEOMETRY (C/H/S): 751/8/17
LBA SUPP: no
PARTITIONS: hda1, hda2

SLAVE: ST3660A
DEVICE TYPE: HDD
GEOMETRY (C/H/S): 1057/16/63
LBA supp: yes
PARTITIONS: hdb1, hdb2

We have 2 harddisk, the 2nd manages even LBA mode. Hda1 and Hda2 says that there are 2 primary partitions on harddisk 1 (ideinfo can also find DOS secondar partitions but this only confuses us). FDISK is also available on Spectrum. I did it and hda1 is DOS partition and hda2 is reserved for hddpatch. It does not matter which identificational mark the partition has but it has to be a primary partition. I did the same with the 2nd harddisk. If you wish to have only hddpatch on your harddisk, create only one partition. If you want to have more things there, create more partitions of course (up to 4 !)

Now you can use Partition-Info. In my case the output was:

MASTER
PARTITION: 1
FIRST SEC.: 17 -> 17,0,0,0
TOTAL SEC.: 41055 -> 95,160,0,0

PARTITION: 2
FIRST SEC.: 41072 -> 112,160,0,0
TOTAL SEC.: 60928 -> 0,238,0,0

SLAVE
PARTITION: 1
FIRST SEC.: 63 -> 63,0,0,0
TOTAL SEC.: 409185 -> 97,62,6,0

PARTITION: 2
FIRST SEC.: 409248 -> 160,62,6,0
TOTAL SEC.: 655200 -> 96,255,9,0

Now, on which partitions did we want to have hddpatch ? On both harddisks always on the 2nd ones.

Let's start to create the VDT table from 32771...

First, sec,head,cyl for hdd_a and hdd_b

17,8,239,2 (2*256+239=751)
63,16,33,4 (4*256+33=1057)

and now the drives themselves...

0,0,0,0 drive 0- the tape recorder
0,0,0,0 drive 1- fdd 1
0,0,0,0 drive 2- fdd 2

and now it depends purely on us where we assign physical drives into BSDOS, we may start with hdd_a:

112,160,0,0 drive 3- hdd_a, the start of the 2nd partition, master, mode 000, read/write
112,176,0,0 drive 4- hdd_a, 4096 sectors further, simply add 16 to the 2nd number until you step over 255, then add 1 to the 3rd number and continue after you have run out spare space on the partition- 60928/4096= 14.875= this partition will contain 14 drives
112,192,0,0 drive 5
112,208,0,0 dr. 6
112,224,0,0 dr.7
112,240,0,0 dr.8
112,0,1,0 dr.9
112,16,1,0 dr.10
112,32,1,0 dr.11
112,48,1,0 dr.12
112,64,1,0 dr.13
112,80,1,0 dr.14
112,96,1,0 dr.15
112,112,1,0 dr.16- we have completely exhausted the partition on hdd_a

Now, we add the 2nd harddisk, it is better, it manages LBA mode.

160,62,6,%00010100=18 (drive 17, hdd_b, slave,mode 010, read/write)
160,78,6,18 drive 18
... ...
.. ..
. .

And when it is all done, write SAVE „myVDT" CODE 32771,1032 and then this...

LOAD „hddpatch16" CODE: LOAD „myVDT" CODE: RANDOMIZE USR 32768

try:
@1: CAT... works ?
@2: CAT...works ?
@3: CAT...did not crash ?

If you do this for the 1st time UNKNOWN FORMAT report will appear but it is all correct. Run FF17 and type in these data:

drv= drive you wish to format (probably no. 3)
hdd= 1
trk= 127 (well, 128 should be here but there is an error either in BSDOS or in formatting program. Unfortunatelly with 128 the drive will not formatt :-(
sec= 8

and you may format... it's slow, isnt' it ? Do not cry, reading is quite fast. Do this with all your new drives... at least until new software will exist for this operation...

If you want to use harddisk which does not manage LBA mode, try 001 mode. If the harddisk freezes (does not react, caueses TIME OUT report), change mode to 000.

If something does not work and you are sure the mistake is not yours, contact me, at best on ZXS conferetion speccy@pandora.cz

Oh my! I hear some of you say. I'm supposed to do all that? Not necessary because there is a great software solution that does it all for you. Why then have I printed it? Firstly I don't want to breed PC-Losers, who only do what the computer says without understanding anything, secondly the program has a small problem as it attempts to use all of the available space on the Hard-disk. Anyone who is not satisfied with this solution can read in this magazine how to do it and carry out the changes themselves. Also: At the end the installation software describes how the individual disks have to be formated. Only: The data is quite different from that for HDD-Patch. That's because the installation software is from an earlier version, which is compatible to all MB02 systems, not only the BS-DOS 3.08, which we all use, but also other versions. I have tried it and both configurations work. Important is (at least it seems so as I haven't tried it) to format all of the disk you want to

work with before beginning to use them. Formating the disk drives when you need them is not a solution, it seems that then it's impossible to copy data from one drive to the other.

So to sum up: What do we need: The IDE-Interface of course, available as a kit. Which can be built using the circuit diagram from the 04/2000 issue, now that the printed circuit board is ready. At least I managed to do it. Unfortunately it is against the law for us to offer the circuit board already built as it doesn't have CE-certificate and to get one would be too expensive. You will of course need a Hard-disk drive, if you haven't got one I can supply it, Fred has already taken care of this. Max. 500 MB, you don't need more. Don't forget the software, consisting of FDISK, IDE-Info, Partition Info und the Patch-Maker. Really you only need FDISK and Patch-Maker, but the other programs work and you can try them out. As well as this there is CD-Player to play music on your CD-drive and a FILM-CD, which contains a series from the Simpsons and lot's other films in Spectrum-Quality which can also be played using the driver program.

And Now: What's it going to cost?
I can't promise as for one or another there could be an extra cable or a disk drive, but at the last count it was about 15 Euros (About 10 pounds) for the complete set. I have to get a current price list for the parts but it will certainly be less than 25 Euros (About 15 pounds).

And something else: Users who don't have an MB02 don't need to despair. Also for these users it would pay to buy the interface. The Film-CD Ex. runs with the MB and I could convince myself that Matrix works. Matrix is a Project, a DOS that as well as accepting IDE-Commands should work with any Diskette system. Perhaps it will only remain a dream but I have an earlier version that can at least load data from a Hard-disk drive to run Z80 files. The only problem is: To-date there is no integrated Diskette system, or even a cassette. You don't have the possibility to save data only to load it. Anyone who has a PC can use it to copy the data and then with MATRIX load it into the Spectrum. Without a PC MATRIX is not yet useable. That is certainly not the aim of the matter but I'm certain that it will be developed further.

I hope I could bring you some of the feeling of excitement with which I am following the development. I'm sure that in the near future there will be many new developments in this direction, but first you need to build your IDE interface. So if you want one then contact me quickly.

Thomas

Last message: You will see, that some sites of the mag got a lot of spaces. This is because it looks like the English language uses less words (or smaller words) to explain these things. But as both issues, the German and the English one, got absolutely the same content, there will be bigger spaces in the English issue. For future we can think about using a bigger font, but then it might happen that we have articles which are much longer to explain in English...

New:

PC-PSU with supply for 2 Floppies and MB02	36,00 €
MB02-Printerlead	13,00 €
Spectrum +2A, new and original package, complete	220,00 €
Diskinterface D80 + Flopppy for Didaktik or Spectrum	111,00 € KS
B-Laufwerk for D80	60,00 € KS
Proface AT Extern (Keyboardinterface for connecting PC-Keyboards to Spectrum)	55,00 € KS
Proface AT intern	52,00 € KS
Melodik AY-Soundbox (unboxed)	21,00 € KS
128k upgrade Kit for 48k (only Hardware Specialists)	21,00 € KS
128k upgrade Kit incl. building inside (send Spectrum board)	52,00 € KS
Mice Maus (Mouse using Kempston Port)	25,00 € KS
+2 Cassetterecorder	36,00 €
Floppy Disc drive (1,86 with MB02, 720k with Opus, 780k with +D) Please specify	24,00 €
PSU for +2A/B and +3 or PSUI for +2 (also 48k and 128k) Please specify	31,00 €
FDD lead for 2 drives	4,00 €
Microdrive	25,00 €
Multiface 128 (working also on 48k)	26,00 €
Dust Cover 48k+/128k	8,00 €
Keyboard membrane 48k	11,00 €
Keyboard membrane Spectrum +/128k, new quality, not aging	21,00 €
Printer Ink Ribbon original STAR LC 10 , Doublepack 2 pieces	11,00 €
Microdrive Cartridges (ex-software)	3,50 €
Plus 3 Tapelead	8,00 €
Spectrum +2 Lightpen	36,00 €
Spectrum +3 Lightpen	27,00 €
Silverpaper for ZX Printer	8,00 €
Phaser-Pistole with Software (Tape or +3)	20,00 €
+3 drive belt	2,00 €
Wafadrive Cartridges	16K= 7,00 €, 32K= 7,50 €, 64K 8,00 €

Used:

Sinclair ZX Spectrum 128k, complete with all cables	144,00 €
Sinclair ZX Spectrum +2, complete with all cables	70,00 €
Sinclair ZX Spectrum +2A, complete with all cables	65,00 €
Sinclair ZX Spectrum +3, built in 3" drive, complete with all cables	100,00 €
Sinclair Spectrum 48k (Gummy), complete with all cables + Introduction Tape	64,00 €
Sinclair Spectrum 48k +, complete with all cables + Introduction Tape	64,00 €
+3 Drive (tested)	74,00 €
Interface I	62,00 €
Opus Discovery Diskinterface with 1 x 720k Drive (new ROM)	118,00 €
Joystickinterface 1-Port 3,00 € 2-Port	11,00 €
Joystick (many different)	2,50 €
Sinclair SJS-Joystick (+2/+3)	6,00 €

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